Highlights

Overview

This issue of the *Natural Gas Monthly* contains estimates of natural gas data through March 2000 for many data series at the national level. Estimates of natural gas prices are available through December 1999 for most series. Highlights of the data estimates contained in this issue are:

Net withdrawals of natural gas from storage during the 1999-2000 heating season were 18 percent higher than during the previous season. Net withdrawals of 780 billion cubic feet during January 2000 were the highest ever recorded.

The daily rate of dry natural gas production in the first quarter of 2000 is slightly higher than that of the first quarter in 1999, while the daily rate of end-use consumption is 2 percent lower than in 1999.

The average natural gas wellhead price in 1999 was $2.07 per thousand cubic feet, 7 percent higher than in 1998, but 11 percent lower than in 1997.

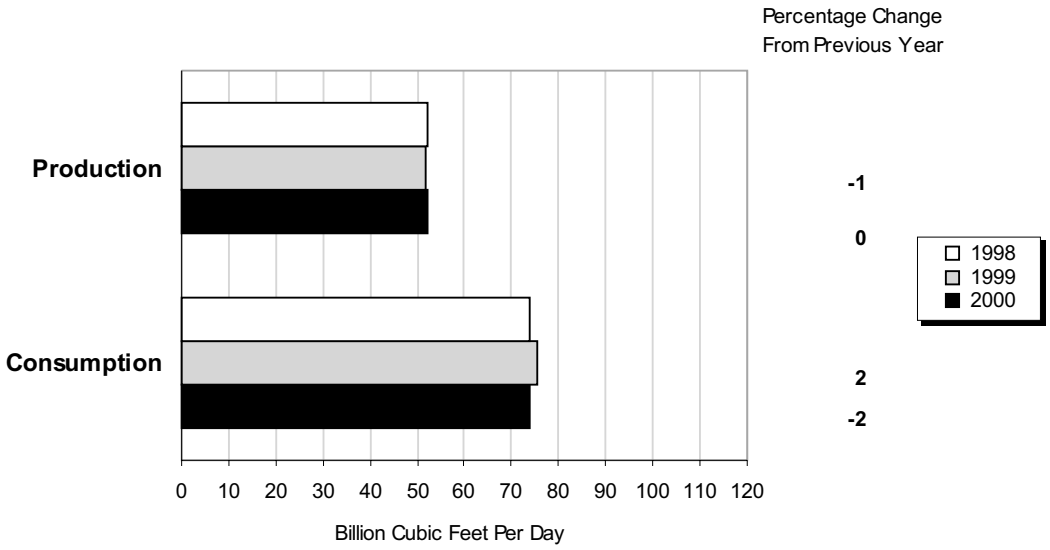
Supply

Both natural gas production and imports are higher in the first quarter of 2000 compared with those in the first quarter of 1999. Net withdrawals of natural gas from storage during the 1999-2000 heating season were 18 percent higher than during the previous heating season. Dry natural gas production for the first quarter of 2000 is estimated to be 4,741 billion cubic feet or 52.1 billion cubic feet per day (Table 1). This daily rate is barely above that of the first quarter of 1999 (0.2 percent) and slightly below that of 1998 (0.3 percent) (Figure HI2). The increase from 1999 to 2000 is the result of higher daily production in January 2000 (1.5 percent), as daily production in February and March 2000 was slightly below the corresponding levels in 1999. Dry production in March 2000 is estimated to be 1,611 billion cubic feet or 52.0 billion cubic feet per day.

Net imports for the first quarter of 2000 are estimated to be 876 billion cubic feet or 9.6 billion cubic feet per day (Table 2). This daily rate is 4 percent higher than for the first quarter of 1999 and 15 percent above that of 1998. Generally, increases in imports over the past 2 years have resulted from pipeline capacity expansions at the Canadian border that came on line in late 1998, continued high utilization rates of the U.S.-Canadian crossborder capacity, and rising imports of liquefied natural gas (LNG) as the United States began receiving LNG from Qatar and Trinidad in 1999. Total LNG imports in 1999 were 161 billion cubic feet, 88 percent higher than the 1998 level of 85 billion cubic feet (Table 5). LNG imports from Trinidad and Qatar during 1999 totaled 69 billion cubic feet, 43 percent of the total for the year. Net imports of natural gas during March 2000 (via pipeline and LNG) are estimated to be 291 billion cubic feet or 9.4 billion cubic feet per day, 5 percent higher than in March 1999.

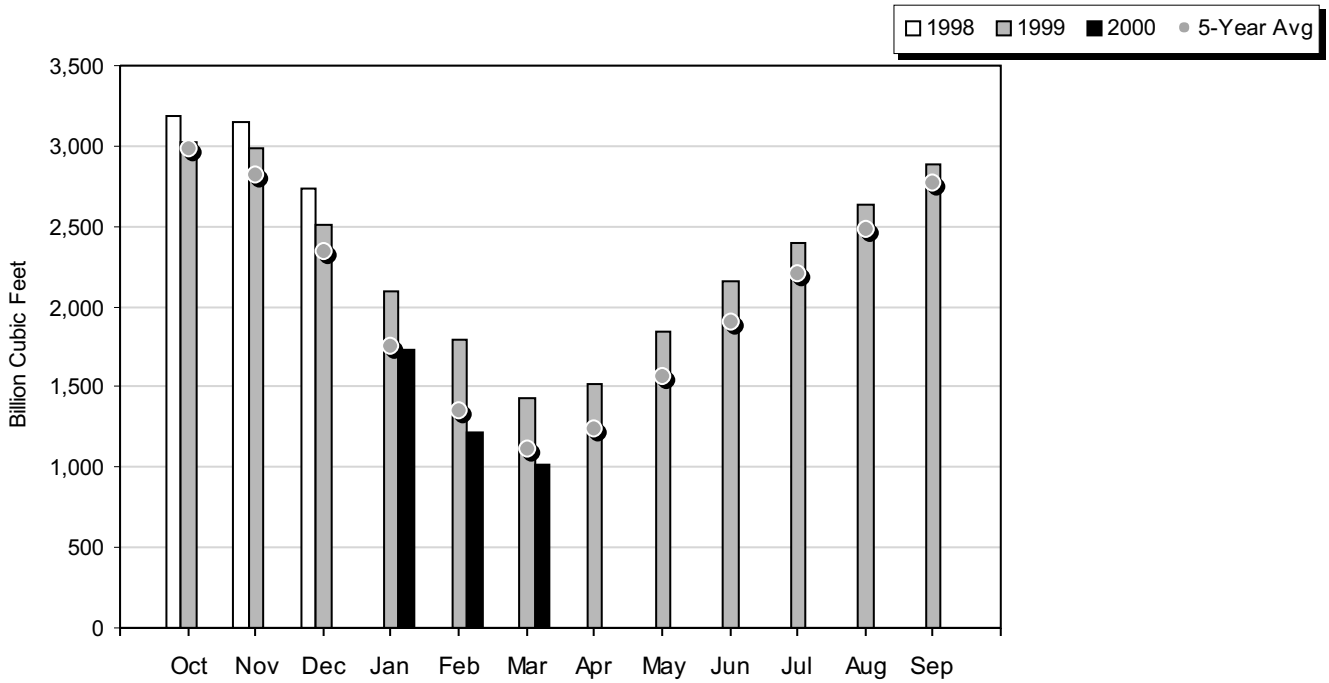
Net withdrawals of natural gas from storage during the 1999-2000 heating season are estimated to be 2,031 billion cubic feet. This is 18 percent higher than during the 1998-1999 heating season, even though both seasons were generally warmer than normal (Table 26). Cold weather did settle into the Midwest and Northeast from mid-January through early February 2000, helping to push net withdrawals in January to 780 billion cubic feet, the highest monthly level ever recorded. Net withdrawals have been at or above 700 billion cubic feet only three other times since monthly records began in 1976, each time occurring in January. Net withdrawals in February 2000 are estimated to be 507 billion cubic feet, 52 percent above those of February 1999. The most recent estimate of net withdrawals is 200 billion cubic feet in March 2000, 33 percent below those of March 1999. The amount of working gas remaining in storage at the end of March 2000 is estimated to be 1,018 billion cubic feet (Figure HI2). This is 29 percent lower than a year ago, putting pressure on natural gas futures prices seen at the

Figure HI1. Average Daily Rate of Natural Gas Production and Consumption, January-March, 1998-2000



Source: Table 2.

Figure HI2. Working Gas in Underground Storage in the United States, 1998-2000



Note: The 5-year average is calculated using the latest available monthly data. For example, the December average is calculated from December storage levels for 1995 to 1999 while the January average is calculated from January levels for 1996 to 2000. Data are reported as of the end of the month, thus October data represent the beginning of the heating season.

Source: Form EIA-191, "Underground Natural Gas Storage Report," Form EIA-176, "Annual Report of Natural and Supplemental Gas Supply and Disposition," and Short-Term Integrated Forecasting System.

Henry Hub this spring. However, working gas is well above the historical low of 758 billion cubic feet at the end of March 1996 and is only 11 percent below the average at the end of March for the previous 5 years.

End-Use Consumption

Cumulatively for January through March 2000, end-use consumption of natural gas is estimated to be 6,234 billion cubic feet or 68.5 billion cubic feet per day, 2 percent below the daily rate for the first 3 months of 1999 (Table 3). Declines in the residential and commercial sectors were somewhat offset by an increase in the industrial sector.

The residential and commercial sectors are highly responsive to weather-related space-heating requirements. With somewhat warmer weather in early 2000 compared with early 1999, cumulative residential consumption during January through March 2000 is estimated to be 2,121 billion cubic feet or 23.3 billion cubic feet per day, 6 percent lower than the daily rate for the same period in 1999. Consumption also fell in the commercial sector, although by a lesser amount. Cumulative commercial consumption during the first quarter is estimated to be 13.6 billion cubic feet per day, 3 percent lower than the comparable 1999 daily rate of 14.0 billion cubic feet. The daily rate of natural gas industrial consumption was 25.5 billion cubic feet for January through March 2000 compared with 24.8 billion cubic feet per day during the first 3 months of 1999, an increase of 3 percent.

In the electric utility sector, annual data for 1999 are available for the first time. Consumption was 3,125 billion cubic feet, 4 percent below the 1998 annual level. In comparing 1998 to 1999, electric utility consumption rose in each month through April but then declined in each of the following 8 months. This pattern of decline corresponds to an increase in wellhead prices. Natural gas wellhead prices ranged from $1.70 to $1.81 per thousand cubic feet through April 1999. In May they climbed to over $2.00 per thousand cubic feet and remained above $2.00 throughout the rest of the year.

Prices

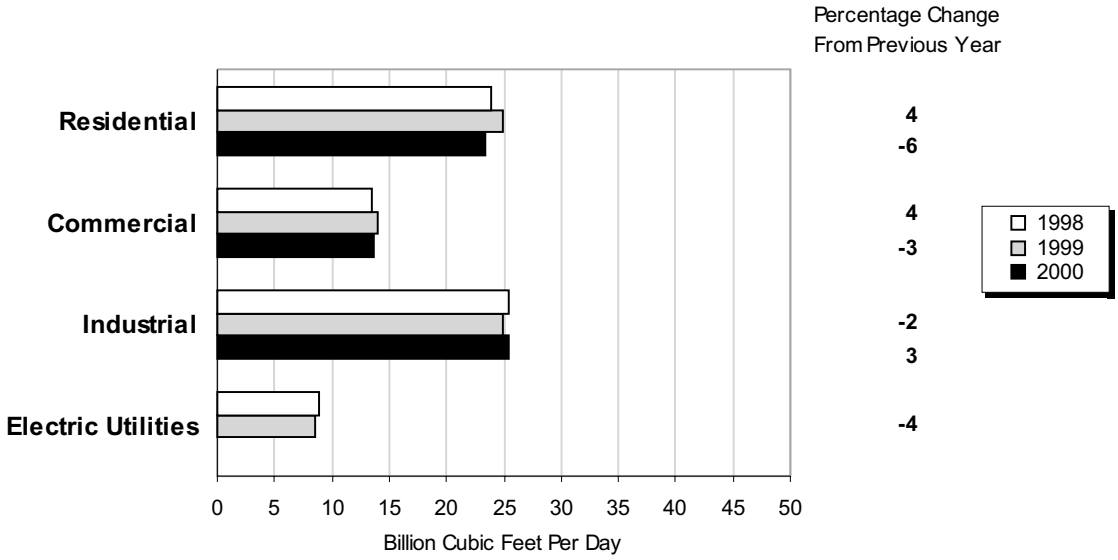
The national average wellhead price for natural gas rose in 1999 compared with 1998, while average prices to end users fell, except in the electric utility sector (Figure HI4 and Table 4). The average wellhead price for 1999 is estimated to be $2.07 per thousand cubic feet, $0.13 per thousand cubic feet (7 percent) higher than in 1998, but $0.25 (11 percent) lower than in 1997. On a monthly basis, the average wellhead price generally increased during the year. The lowest monthly average was $1.70 per thousand cubic feet in March 1999 and the highest was $2.44 in November 1999, a difference of 44 percent.

The average wellhead price dropped from November to December 1999 by $0.41 (17 percent) to $2.03 per thousand cubic feet. A number of factors contributed to this decline, including generally warmer-than-normal temperatures during both November and December 1999 (Table 26) and abundant supplies of natural gas in storage. Also, the settlement price on the futures market for December delivery at the Henry Hub fell by $0.794 per million Btu[1] (27 percent) during November 1999, closing at $2.120 per million Btu on November 24, the last day of trading for that contract. The futures closing price for any delivery month is used as the reference price in some wellhead sales contracts transacted during the delivery month.

The overall rise in natural gas wellhead prices during 1999 was influenced by increases in crude oil prices during the year and the resultant increase in the price of petroleum-based fuels that are alternatives to natural gas. After seeing some of the lowest crude oil prices in a decade during 1998, the domestic first purchase price for crude oil generally rose from $8.59 per barrel in January 1999 to $22.55 per barrel in December 1999, an increase of 163 percent. The crude oil price averaged $15.56 per barrel for the year in 1999, 43 percent higher than in 1998, but 10 percent lower than in 1997. The annual average price for distillate (no. 2) fuel oil rose 13 percent, from 1998 to 1999, reaching 67.7 cents per gallon. However, monthly average distillate prices rose 48 percent during 1999, from 57.4 cents per gallon in

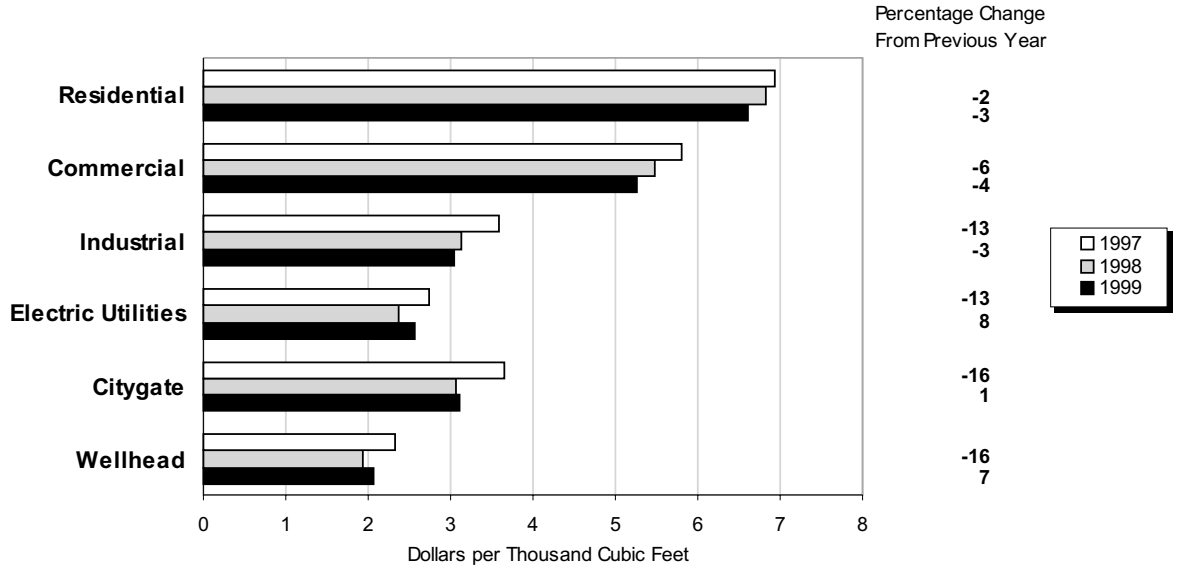
1 To convert a price for natural gas from dollars per million Btu to dollars per thousand cubic feet, multiply by 1.03 (1 cubic foot of natural gas is approximately equal to 1,030 Btu).

Figure HI3. Average Daily Rate of Natural Gas Deliveries to Consumers, January-March, 1998-2000



Note: Electric utilities reflect January-December deliveries for 1998-1999.
Source: Table 3.

Figure HI4. Average Delivered and Wellhead Natural Gas Prices, January-December, 1997-1999



Note: Commercial and industrial average prices reflect onsystem sales only. The reporting of electric utility prices is 1 month behind the reporting of other prices.
Source: Table 4.

January 1999, increasing nearly every month to 85.2 cents per gallon in December 1999.[2]

The average city gate price for natural gas, the price paid by local distribution companies, was $3.11 per thousand cubic feet in 1999, compared with $3.07 in 1998 and $3.66 in 1997. Residential, commercial, and industrial natural gas prices[3] are all estimated to be lower in 1999 than in 1998. Residential users paid an average of $6.60 per thousand cubic feet for natural gas in 1999, $0.22 (3 percent) less than in 1998 and $0.34 (5 percent) less than in 1997. In the commercial sector, the average price paid for natural gas in 1999 was $5.26 per thousand cubic feet, $0.22 (4 percent) less than in 1998 and $0.54 (9 percent) less than in 1997. Residential and commercial prices during 1999 were lower than in 1998 during most months of the year.

The average price paid for natural gas in the industrial sector in 1999 is estimated to be $3.04 per thousand cubic feet, $0.10 (3 percent) lower than in 1998 and $0.55 (15 percent) lower than in 1997. During the first 5 months of 1999, the industrial price was roughly 15 percent lower than it had been in 1998. The gap closed during June and July, and from August through the end of the year industrial prices were 11 to 18 percent higher than in 1998.

A similar pattern was shown in monthly average prices paid by electric utilities. From January through April 1999, the electric utility price for natural gas was at least 10 percent lower than it had been in 1998. The gap closed in May through July, and from August through November (the most recent month available), electric utilities paid 27 to 33 percent more for natural gas than they had in 1998. The cumulative average electric utility price for January through November 1999 is estimated to be $2.56 per thousand cubic feet. This is higher than the average price of $2.40 per thousand cubic feet for the full year 1998.

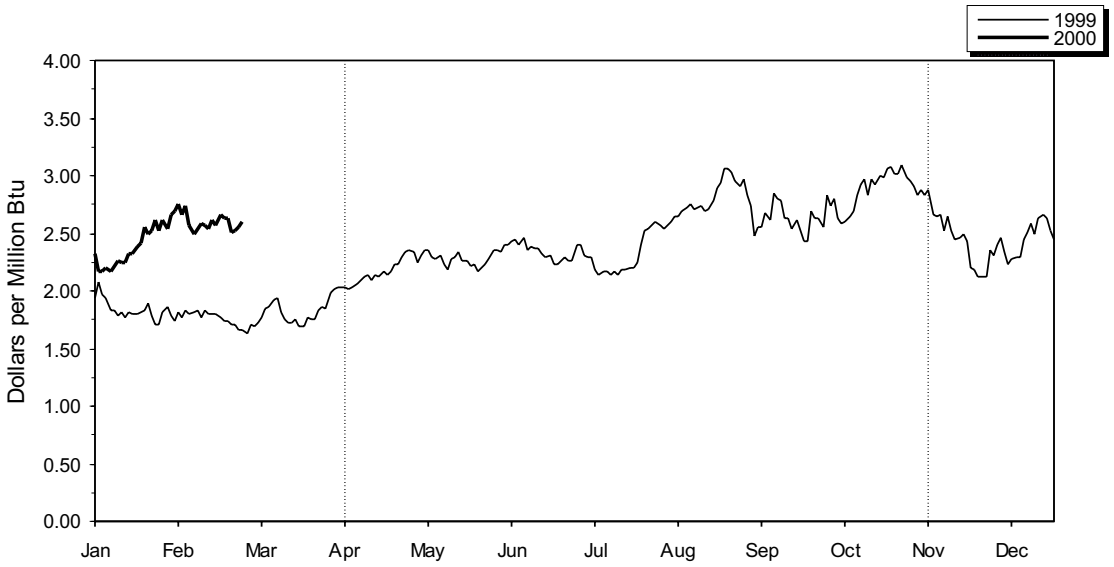
More recent data on futures prices at the Henry Hub show a strength in prices that is unusual at the end of the heating season. Daily settlement prices on the near-month contract were below $2.20 per million Btu in early January 2000, but have generally increased since then (Figure HI5) indicating the industry's expectation of tight supplies through the summer.[4] The contract for April delivery closed at $2.900 per million Btu on March 29, 2000, the highest closing price ever for this contract and $1.048 (57 percent) higher than for the April 1999 contract.

2 Energy Information Administration, *Petroleum Marketing Monthly*, DOE/EIA-0380(00/04)(Washington, DC, March 2000), Tables 1 and 15.

3 End-use prices in the residential, commercial, and industrial sectors are for onsystem gas sales only. While monthly onsystem sales are nearly 100 percent of residential deliveries, in 1999 they were 65 percent of commercial deliveries and only 17 percent of industrial deliveries (Table 4).

4 Energy Information Administration, *Natural Gas Weekly Market Update*. http://www.eia.doe.gov (April 3, 2000).

Figure HI5. Daily Futures Settlement Prices at the Henry Hub



Note: The futures price is for the near-month contract, that is, for the next contract to terminate trading. Contracts are traded on the New York Mercantile Exchange. April 1 is the beginning of the natural gas storage refill season. November 1 is the beginning of the heating season.

Source: Commodity Futures Trading Commission, Division of Economic Analysis.